

“Even” Discussion Group

Discussion

- **Brief Review of the Morning Talks**
 - **S2S Data Base**
 - **Current NMME**
 - Sub-Seasonal Experiment Not Enough
 - Still to Learn from Monthly Initialized
 - **Predictability/Sources of Skill/Teleconnections**
 - **Resolution**
 - Atmosphere (Stratosphere), Ocean

- **Trade offs**
 - Ensemble Size (Real-Time vs. Retrospective)
 - Retrospective Forecast Period
 - Resolution: Horizontal and Vertical
 - Top, Stratospheric Levels
 - Does the Retrospective Need to Exactly the Same as Real-Time?
- **Purpose of Retrospective Forecast**
 - Support Research or Experimental Real-Time?
- **What Research Purpose Would NMME Sub-Seasonal Satisfy that NMME Phase-2 or S2S Do Not Satisfy?**
 - Heterogeneous Predictability (?)
 - Real-Time

- **What is Added Value of NMME Sub-Seasonal Effort Relative NMME Phase-2 and S2S?**
 - Need to Fully Exhaust Existing Data Before New Re-Forecast Effort
 - Potential for Experimental Real-Time
- **Initialization and Data Assimilation**
 - Number of Years, Satellite Era
 - ENKF, Strongly Coupled Data Assimilation
 - Assimilation vs. Initialization
 - Ensemble Generation (Should this be uniform?)
- **Model Tuning**
 - Best Practices
 - ENKF for Parameter Estimation

- **NMME Sub-Seasonal Protocol?**
 - **To Support Development of Experimental Real-Time Sub-Seasonal MME, and Foster Research and Collaboration**
 - **Opportunity for NOAA Real-Time Need to Influence/Shape Reforecast Protocol**
 - **Coordinated Development Phase With Case Studies**
 - **Tuning, Initialization, Physical Process Evaluation**
 - **Should Protocol Be More Specific than Monthly NMME**
 - **E.g., CO2, Ensemble Generation, Ensemble Size ...**
 - **Limitations of Single (RMM1/2) Verification Metric Noted**